UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,000	06/07/2006	Shinichi Inoue	3273-0226PUS1	9234

2292 7590 01/08/2010

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
HEINCER, LIAM J	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
01/08/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/582,000	INOUE ET AL.	
	Examiner	Art Unit	
	Liam J. Heincer	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,6-8,12-14 and 22-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,6-8,12-14 and 22-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997).

Considering Claims 2 and 6: Schauder et al. teaches a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 (4:19-27).

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea rasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Schauder et al. does not teach the weight average molecular weight of the polymer. However, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP § 2144.05. As Schauder et al. teaches that the weight average molecular weight is related to the processability of the polymer (3:41-54), a person having ordinary skill in the art at the time of invention would consider it to be a result effective variable. A such, it would have been obvious to a person having ordinary skill in the art at the time of invention to have optimized the weight average molecular weight of the polymer, and the motivation to do so would have been to produce a processable rubber composition.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997).

Considering Claims 2 and 6: Schauder et al. teaches a method for producing a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) comprising molding and vulcanizing the article (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 (4:19-27).

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Schauder et al. does not teach the weight average molecular weight of the polymer. However, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP § 2144.05. As Schauder et al. teaches that the weight average molecular

weight is related to the processability of the polymer (3:41-54), a person having ordinary skill in the art at the time of invention would consider it to be a result effective variable. A such, it would have been obvious to a person having ordinary skill in the art at the time of invention to have optimized the weight average molecular weight of the polymer, and the motivation to do so would have been to produce a processable rubber composition.

Claims 8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997).

Considering Claims 8 and 12-14: Schauder et al. teaches a rubber like article (6:30-40) comprising 70 to 95 weight percent of EPDM resin and 5 to 30 weight percent of an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 (4:19-27).

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber to a degree of hydrogenation of 100% (Table II) in the presence of a rhodium complex in a solvent (pg. 1652). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. in

the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Schauder et al. does not teach the weight average molecular weight of the polymer. However, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP § 2144.05. As Schauder et al. teaches that the weight average molecular weight is related to the processability of the polymer (3:41-54), a person having ordinary skill in the art at the time of invention would consider it to be a result effective variable. A such, it would have been obvious to a person having ordinary skill in the art at the time of invention to have optimized the weight average molecular weight of the polymer, and the motivation to do so would have been to produce a processable rubber composition.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauder et al. (US Pat. 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science, Vol. 68, 1647-1652, 1997).

Considering Claims 22-25: Schauder et al. teaches a rubber like article (6:30-40) comprising an ethylene-propylene copolymer (2:25-54) that has been molded and vulcanized (4:52-5:11). Schauder et al. teaches the copolymer as having a molecular weight distribution between 1 and 8 (4:19-27).

Schauder et al. does not teach ethylene-propylene copolymer as being a hydrogenated product of natural rubber. However, Singha et al. teaches hydrogenating a natural rubber/Hevea rasiliensis to a degree of hydrogenation of 100% (Table II) in the presence of hydrogen and a rhodium complex in a solvent (pg. 1648). Schauder et al. and Singha et al. are analogous art as they are concerned with the same field of endeavor, namely ethylene-propylene copolymers. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. in the molded article of Schauder et al., and the motivation to do so would have been, as Singha et al. suggests, it is an easy method to produce ethylene-propylene copolymers (pg. 1647-48).

Schauder et al. does not teach the weight average molecular weight of the polymer. However, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP § 2144.05. As Schauder et al. teaches that the weight average molecular weight is related to the processability of the polymer (3:41-54), a person having ordinary skill in the art at the time of invention would consider it to be a result effective variable. A such, it would have been obvious to a person having ordinary skill in the art at the time of invention to have optimized the weight average molecular weight of the polymer, and the motivation to do so would have been to produce a processable rubber composition.

Response to Amendment

The declaration under 37 CFR 1.132 filed October 15, 2009 is insufficient to overcome the rejection of claim 2, 6-8, 12-14, 22-24 based upon Belt et al. as set forth in the last Office action because: The applicants argument that the proposed rejection would require too many experiments and would thus be undue experimentation is not persuasive. The quantity of experimentation needed to be performed by one skilled in the art is only one factor involved in determining whether "undue experimentation" is required to make and use the invention. "[A]n extended period of experimentation may not be undue if the skilled artisan is given sufficient direction or guidance." *In re Colianni*, 561 F.2d 220, 224, 195 USPQ 150, 153 (CCPA 1977). See MPEP § 2164.06. As Belt provides a finite list with sufficient guidance, the number of experiments, by itself, is not sufficient to establish that Belt et al. is not enabled for the natural rubber embodiment disclosed, but not exemplified. However, the amendments to the claims have overcome the rejection based on Belt et al.

.

Response to Arguments

Applicant's arguments with respect to claims 2, 6-8, 12-14 and 22-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

LJH
December 22, 2009